

# MISCELLANEOUS PAPERS

Centre for Entomological Studies Ankara

No 176

26 November 2018

ISSN 1015-8235



Uighurs are an ancient civilization in the world; indestructible even under inhuman pressures



<http://zoobank.org/References/55846263-229E-4286-9505-65B8212114FE>

## New information on some Heterocera families in Turkey (Lepidoptera)

Muhabbet Kemal<sup>1</sup> Ahmet Ömer Koçak

**Abstract:** New information on some Heterocera families in Turkey (Lepidoptera). *Misc. Pap.* 176: 1-38, 96 figs.

In this paper, faunistically important 107 species of 17 moth families from Turkey are discussed. New records for Turkey, provinces, and districts are reported. Adults and genital slides of some species are also illustrated. *Dyspessa tsvetaevi* (Cossidae), *Isturgia suleiman* (Geometridae), and *Agrotis pierreti* (Noctuidae) are considered as new records for the fauna of Turkey. *Anarsia innoxella* is recorded as a new species for Asia Continent. *Recurvaria* sp. and *Euscrobipalpa* sp. (Gelechiidae) are briefly discussed. Two new larval food-plant records, *Acer monspessulanum*, *Frangula alnus* are reported. The male genitalia of *Choreutis muhabbet* (Choreutidae) is given here for the first time.

**Key words:** Arctiidae, Autostichidae, Choreutidae, Cosmopterygidae, Cossidae, Ethmiidae, Gelechiidae, Geometridae, Lasiocampidae, Noctuidae, Oecophoridae, Pyralidae, Saturniidae, Stathmopodidae, Tineidae, Ypsolophidae, Zygaenidae, Ankara, Antalya, Ardahan, Bayburt, Bitlis, Bolu, Çankırı, Diyarbakır, Eskişehir, Hakkari, İstanbul, Iğdır, Kars, Kayseri, Malatya, Mardin, Niğde, Siirt, Şırnak, Van, fauna, Turkey.

In this paper, faunistical records of 107 species, belonging to 17 families are evaluated and discussed. These families are as follows; Arctiidae, Autostichidae, Choreutidae, Cosmopterygidae, Cossidae, Ethmiidae, Gelechiidae, Geometridae, Lasiocampidae, Noctuidae, Oecophoridae, Pyralidae, Saturniidae, Tineidae, Ypsolophidae, and Zygaenidae. The materials have been collected by the authors from the following 20 provinces, during their various excursions between 1968 and 2018: Ankara, Antalya, Ardahan, Bayburt, Bitlis, Bolu, Çankırı, Diyarbakır, Eskişehir, Hakkari, İstanbul, Iğdır, Kars, Kayseri, Malatya, Mardin, Niğde, Siirt, Şırnak, and Van. Faunistically, 61 records of the species are new for various provinces of Turkey, with 2-3 hesitations. Three species are new for the fauna of Turkey, *Dyspessa tsvetaevi* (Cossidae), *Isturgia suleiman* (Geometridae), and *Agrotis pierreti* (Noctuidae). One species, *Anarsia innoxella*, appears as a new species for Asia Continent. Several species are also first records for various districts.

<sup>1</sup> Dr Muhabbet Kemal - Van Yüzüncü Yıl University, Faculty of Science, Dept. of Biology, Campus, Van / Turkey.  
e-mails: [muhabbet\\_kemal@yahoo.com.tr](mailto:muhabbet_kemal@yahoo.com.tr)  
Prof. em. Dr Ahmet Ömer Koçak, c/o Yüzüncü Yıl University, Faculty of Science, Dept. of Biology.  
e-mail: [cesa\\_tr@yahoo.com.tr](mailto:cesa_tr@yahoo.com.tr)

Taxonomically, *Recurvaria* sp., and *Euscrobipalpa* sp. (*Gelechiidae*) are briefly discussed. More materials and investigations are perhaps needed in order to identify them precisely.

As a result of the field observations of the first author, two new food-plant records, *Acer monspessulanum*, *Frangula alnus* for the larvae of *Anarsia innoxella* (*Gelechiidae*), *Tiliacea cypreago*, and *Diloba caeruleocephala* (*Noctuidae*) are given here.

All the species are identified by the authors. If necessary, the genital morphology of the species are prepared and photographed by the first author. In this paper, totally 34 species are illustrated. Among the genitalic images of 25 species, only one female genitalia are given. The male genitalia of *Choreutis muhabbet* (*Choreutidae*) is given here for the first time.

All the images used in this paper are preserved in the Cesa archive, and the material in the Collection of the Cesa.

The symbol, \* denotes that the mtCOI DNA of the species should be examined separately.

## List of the species

### *Arctiidae*

#### 1. *Cymbalophora rivularis* (Ménétriés, 1832)

Material studied: 2♂. SE Turkey, Hakkari Province, Zap valley, Sulphur Valley 1570-1620m, (30Bt1) 6.x.2018, M. Kemal & A. Koçak leg. (Cesa).

Remarks: This autumnal species is apparently rare and local in the region.

### *Autostichidae*

#### 2. \**Aprominta kyra* (Gozmany, 1961) (Figs. 1,2)

Material studied: 1♂. E Turkey, Van Province, Bahçesaray, Liman *Populus tremula* comm. 2320m (65Ac3), 6.viii.2016 (GP2916♂), M. Kemal & A. Koçak leg. (Cesa).

Remarks: This species was described by Gozmany from the material collected “Wan 2000m” probably from Ereğ Mt.

The present record is new for Bahçesaray district (Kemal & Koçak, 2017c).

#### 3. \**Symmoca (s.str.) manni* Gozmany, 2008 (Figs. 3-5)

Material studied: 1♂ (GP2878). SE Turkey, Hakkari Province, Dağlıca 1480m (30Df), 21.vii.2017, H. Uçak leg. (Cesa).

Remarks: This species has not been reported from Dağlıca previously (Kemal, Koçak & Uçak, 2018). Gozmany (2008) described this species from Mardin (SE Turkey).

The present record is new for Hakkari Province!

### *Choreutidae*

#### 4. \**Choreutis muhabbet* Koçak, 2008 (Figs. 6-8)

Material studied: SE Turkey, Hakkari Province, Zap valley, Ağaçdibi 1250m (30Bç), 15.vi.2018, 2♂ (diurnal). Same province, Ağaçdibi 1375m (30Bç) on 7.vii.2018, 1♂ (nocturnal), M. Kemal & A. Koçak leg. (Cesa).

Remarks: This species was described by Koçak (2008) from Van Province (Çatak). Its adult is known as diurnal, but one male, cited here, was attracted by light trap.

The present record of this species is also new for Hakkari Province.

In the present paper, the male genitalia of the species is illustrated for the first time.

#### 5. *Tebenna micalis* (Mann, 1857) (Figs. 9-10)

Material studied: 1♂ (GP2904). NW Turkey, İstanbul Prov., Pendik, Kaynarca 10.viii.1968, A. Koçak leg. (Cesa)

**Remarks:** This species was recently reported by (Efil *et al.*, 2018) from Çanakkale. After 50 years, the specimen from İstanbul has been given here as first record for the provincial fauna.

## **Cosmopterygidae**

### **6. \**Tolliella fulguritella* (Ragonot, 1895)**

**(Figs. 11-13)**

*Stigmatophora fulguritella* Ragonot, 1895, *Bull. Soc. ent. Fr.* 1895: cviii-cix. Type ♂. [Turquie]: Akbes (MNHN).  
*Stigmatophora fulguritella*: Zerny, 1934, *Dt. Ent. Z., Iris* 48: 26. Lebanon, "B[e]charré".  
*Stigmatophora fulguritella*: Osthelder, 1935, *Mitt. münch. ent. Ges.* 25 (3): 85. "M[ar]aş", YD [Amanos].  
*Limnoecia copidobathra* Meyrick, 1936, *Exot. Microlepid.* 5: 30-31. Type ♀, [Lebanon, East of Beirut]: "Syria (Brummana, July (R.E. Ellison)".  
*Stigmatophora fulguritella*: Amsel, 1959, *Bull. Soc. ent. Egypte* 43: 68. Iraq: "Hajji Omran".  
*Tolliella fulguritella* (= *copidobathra*): Riedl, 1969, *Polski pismo Ent.* 39 (4): 799-800. "Asie Mineure, Iraq, Jordanie, Syrie".  
*Tolliella fulguritella* (= *copidobathra*): Koster & Sinev, 2003, *Microlepidoptera of Europe* 5: 166-167, 236, 301, 357. "Turkey, Lebanon, Syria, Jordan, Iraq".

The species was described by Ragonot (1895) from Akbes (S. Turkey, Hatay Province). Zerny (1934: 26) reported "*Stigmatophora fulguritella*" from Lebanon (Becharré). Osthelder (1935) recorded this species from "Marasch" [Kahramanmaraş Prov.], and "YD" [Amanos Mts.]. Meyrick (1936) described "*Limnoecia copidobathra*" from "Brummana" [Lebanon]. This name has been synonymized by Riedl (1969). Amsel (1959: 68) reported "*Stigmatophora fulguritella*" from northern Iraq (Hajji Omran), based upon the material collected by Wiltshire on 29.7.1954. Riedl (1969) established a new genus, "*Tolliella*", for the species "*Stigmatophora fulguritella* Rag.". Koster & Sinev (2003: 236) illustrated adult of this species from "Halfeti" (Urfa Prov.). Hitherto known localities of *Tolliella fulguritella* belong to the following countries: Turkey (Hatay, Kahramanmaraş and Urfa Provinces), Lebanon (Brummana, Becharré), Iraq (Hajji Omran), and Jordan. These localities were also mentioned by the authors as codes in the latest checklist of the Lepidoptera of Turkey (Koçak & Kemal, 2018).

**Geographical remarks:** We have no published data about the occurrence of *Tolliella fulguritella* from Syria, and Jordan. The locality, Brummana belongs to Lebanon (not to Syria), similarly, Akbes is located in South Turkey (not Syria). "Jordan" record was first mentioned by Riedl (1969), Koster & Sinev (2003) repeated this information in their book.

**Material examined:** 1♂. SE Turkey, Hakkari Province, Yüksekova, Dağlıca 1520m (30Df), 24.vii.2017, leg. H. Uçak. - 5♂ (1♂ GP2973), same province, Zap Valley, Sulphur Valley 1570m (30Bt1), 8.vii.2018, M. Kemal & A. Koçak leg. (all material in coll. Cesa).

New for Hakkari Province.

## **Cossidae**

### **7. *Cossulus lena* Yakovlev, 2008**

**Material studied:** 15♂. E Turkey, Van Province, Gürpınar, Başet Mt. 2710m (65Gü), 7.viii.2018, M. Kemal & A. Koçak leg. (Cesa)

**Remarks:** This alpine species was described by Yakovlev (2008a) from Güzeldere Pass (leg. Tibor Csovári). In the publication, the label information of *lena* is given as follows:

"Turkey, prov. Hakkari, Yuksekova Mts., 2.5 km E of Guseldere pass,...".

There is no Yuksekova Mts. in Turkey, and Güzeldere Pass (both sides) is located in Van Province, not in Hakkari.

### **8. *Dyspessa stroehlei* Yakovlev, 2008 and**

### **9. *Dyspessa tsvetaevi* Yakovlev, 2008**

*Dyspessa stroehlei* was described by Yakovlev (2008b) from Göle [NE Turkey, Ardahan Prov.]. In the same publication, Yakovlev described also *Dyspessa tsvetaevi* from Shaqlawa (Iraq).

The authors illustrated two *Dyspessa* species from Çatak (Van Province) (Kemal & Koçak, 2016d). The figs. 32-33 on page 49 should belong to *Dyspessa stroehlei* Yakovlev, 2008. The fig. 31 on page

48 should belong to *Dyspessa tsvetaevi* Yakovlev, 2008. Both species are new for Van Province. Furthermore, *Dyspessa tsvetaevi* Yakovlev, 2008 is the first record for the fauna of Turkey.

## **Ethmiidae**

### **10. *Ethmia aurifluella* (Hübner, [1810])**

Material studied: 1♀. E Turkey, Bitlis Province, Nemrut Volcano, Ilıkgöl NE 2275m, 29.v.2015, M.Kemal & A.Koçak leg. (Cesa).

Remarks: This is the first record of the species for Nemrut Volcano.

## **Gelechiidae**

### **11. *Anarsia innoxia* Gregersen & Karsholt, 2017 (Figs. 14-16, 72-77, 94-96)**

Material studied: 1♂ (GP2890). E Turkey, Van Province, Gevaş, Altınsaç 1680m (65Fd), 25.v.2016 ex larva on *Acer monspessulanum*, M. Kemal & A.Koçak leg. (Cesa).

Remarks: This species was described by Gregersen & Karsholt (2017) from Denmark. In Turkey-in-Europe, it was also reported by the same authors from Keşan (Edirne Province). The present record belongs to Van Province (Gevaş, Altınsaç). This species is new not only for the province, also for the fauna of Asia Continent. Moreover, *Acer monspessulanum* (*Sapindaceae*) is also new larval foodplant record of the species.

### **12. *Bryotropha arabica* Amsel, 1952 (Figs. 17-19)**

Material studied: 1♂ (GP2885). SE Turkey, Mardin Province, Artuklu, Sultanköy 1.7km E 1050m, 15.v.2017, M.Kemal & A.Koçak leg. (Cesa).

Remarks: New record for the fauna of Mardin Province!

### **13. *Carpatolechia humeralis* (Zeller, 1839) (Figs. 20-22)**

Material studied: 1♂ (GP2918). E Turkey, Van Province, Bahçesaray Altındere 1935m (65At5), 4.vii.2016, M.Kemal & A.Koçak leg. (Cesa)

Remarks: This little known species has not been reported from Bahçesaray or Van Province, so far (Kemal & Koçak, 2017c). New for the fauna of Van Province!

### **14. *Euscrobipalpa* sp. (Figs. 23-24)**

Material studied: A number of specimens were collected by the authors from Zerneke (Van Province, Gürpınar), and its specific identity still under discussion.

Remarks: The external and the genital morphology (GP2908♂) resemble to *Euscrobipalpa albostrigata* (Povolny, 1977), described from NW Iran: “15km W Rezaiyeh 1400m” (today Urmia). However, there are some differences, that may be important between two taxa. More material is therefore needed for its precise identity.

### **15. *Nothris gregersenii* Karsholt & Sumpich, 2015**

Material studied: 4♂. E Turkey, Van Province, Erek Mt., Sarmaç 2135m. (65Kl6), 4♂, 4.ix.2018; same place 6♂, 16.ix.2018, M.Kemal & A.Koçak leg. (Cesa).

Remarks: This species was previously recorded by the authors from Van, Bitlis, İçel, and Hakkari Provinces Koçak & Kemal, 2018).

### **16. *\*Recurvaria* sp. (Figs. 25-27, 78-80)**

Material studied: 1♂ (GP3023). E Turkey, Van Province, Gevaş, Altınsaç SE 1680m, ex larva on *Cerasus* aff. *microcarpa* (*Rosaceae*) on 30.iv.2016; adult male emerged on 1.vi.2016, M. Kemal & A.Koçak leg. (Cesa).

**Remarks:** In the spring, a single caterpillar was reared by the first author on *Cerasus* aff. *microcarpa*<sup>2</sup>, then male emerged. Its external and genital morphology appear as being near to *nanella*, but the male genitalia carries some parts, remarkably different from *nanella*, e.g., long terminal filaments of valva, very short and horse shoe-shaped medial process of vinculum (cf. Huemer & Karsholt, 1999: 13, textfig. 5). The Van specimen differs from all known *Recurvaria* spp. in the region. For our final decision, we need molecular comparison, if possible more material.

**17. *Sophronia illustrella* (Hübner, 1796) (Fig. 28)**

**Material studied:** 1♀. NW Turkey, Bolu Province, Abant road 1100m (14Bb), 13.vi.1981, A.Koçak leg. (Cesa).

**Remarks:** *Tinea illustrella* Hbn is the type-species of the genus *Sophronia* Hbn. Previously, it has been collected in 1851, and reported by Mann (1862: 400) from Bursa Province. After 130 years, the record from Bolu was the second one in Turkey. Since then, it was not seen again in Turkey (Koçak & Kemal, 2018: 136).

## Geometridae

**18. *Apocheima hispidarium* ([Denis & Schiffermüller], 1775)**

**Material studied:** 1♂. C Turkey, Ankara Province, Kızılcahamam, Soğuksu 1300m (06Rb), 22.iii.1990, A.Koçak leg. (Cesa). - 1♂. Siirt Province, Baykan district, Üççeşme 700m (56Ac), 6.iii.2008, M. Kemal & A.Koçak leg. (Cesa) [new record for the district]. - 2♂. Diyarbakır Province, Kulp, Düzce SE 950m (21Nh), 20.iii.2011, M. Aydın leg. (Cesa).

**Remarks:** Adults of this species fly in March and apparently uncommon in East Turkey.

**19. *Apochima flabellaria* (Heeger, 1838)**

**Material studied:** 7♂3♀. NW Turkey, Eskişehir Province, Sivrihisar, Oğlakçı 800m (26Ka), 5.iv.1975, A.Koçak leg. (Cesa). 21♂. Diyarbakır Province, Kulp, Düzce SE 950m (21Nb), 20.iii.2011, M. Aydın leg. (Cesa).

**Remarks:** This vernal species was reported by the authors from 16 provinces of Turkey (Koçak & Kemal, 2018).

**20. *Bellachima diaphanaria* (Püngeler, 1904)**

**Material studied:** 1♂2♀. S Turkey, Niğde Province, Aladağlar, Demirkazık, Cimbar Gorge 1650m (51Bc), 12.ix.1980, A.Koçak leg. (Cesa).

**Remarks:** This autumnal species was reported by the authors from 7 provinces of East Turkey (Koçak & Kemal, 2018). This species is apparently rarer than the preceding and confined to East Turkey. Recently a distinct genus, *Bellachima* has been established for "*Zamacra diaphanaria*" Püngeler (Kemal *et al.*, 2018).

**21. *Biston achyrus* Wehrli, 1936 (Fig. 29)**

**Material studied:** 1♂ (GP3002). SE Turkey, Hakkari Prov., Zap valley, Üzümcü 1200m (30Bf), 16.v.1976, A.Koçak leg. (Cesa). - 1♂. Siirt Province, Şirvan S. Gülenakabe 910m (56Fğ) 7.iii.2008, M. Kemal & A.Koçak leg. - 5♂. Same province, Şirvan, Kasımlı 650m (56Ff), 1.iv.2011, M. Kemal & A.Koçak leg. (Cesa).

**Remarks:** This vernal species was described by Wehrli from Kahramanmaraş Province. It was also known from Diyarbakır (Kulp) and Siirt Province (Şirvan) (Koçak & Kemal, 2018). New record for Hakkari Province!

**22. *Carsia lythoxylata* (Hübner, [1799])**

**Material studied:** 4♂. E Turkey, Van Province, Gürpınar, Başet Mt. 2710m (65Gü), 7.viii.2018, M. Kemal & A.Koçak leg. (Cesa)

**Remarks:** This species is new for the fauna of Van Province!

<sup>2</sup> *Cerasus* is represented by four species in the vicinity Altınışa. These are *microcarpa*, *brachypetala*, *mahaleb*, and *prostrata* (Bingöl, Ö., Adıgüzel, N. S. M. Pınar, 2017, The flora of Deveboynu Peninsula (Gevaş, Van/Turkey) and its environment. *Turk. J. Life Sci* 2/1: 117-141.)



**23. *Cataclysmes rigata* (Hübner, [1813])**

Material studied: 1♂. NE Turkey, Iğdır Province, Güngörmez 2510m (76Bl), 17.vi.2012, M. Kemal & A. Koçak leg. (Cesa).

Remarks: After 125 years, this is the second record of the species from Iğdır Province. Romanoff (1887: 4) reported this species from Kazıkoparan (Iğdır Province) (76C).

**24. *Charissa (Euchrognophos) dubitaria* (Staudinger, 1892)**

Material studied: SE Turkey, Hakkari Prov., Zap valley, Ağaçdibi 1375m (30Bç1) 18♂♀; from same place 1440m (30Bç2) 18♂♀, both on 5.x.2018, M. Kemal & A. Koçak leg. (Cesa).

Remarks: This species is common and inhabits mountainous and wooded area in SE Turkey. New record for Hakkari Province.

**25. *Charissa (Kemtroglyphos) onustaria* (Herrich-Schäffer, [1852])**

Material studied: E Turkey, Malatya Province, Beydağı NP 1195m. (44Lc), 27.iv.2015, 3♂, M. Kemal & A. Koçak leg. – SE Turkey, Siirt Province, Pervari, Kırıkkaya 1155m (56Dd), 1♀, 13.iv.2013, M. Kemal & A. Koçak leg. – Same Province, Şirvan, Nergisli 630m (56Fv), 1♀, 18.iv.2015, M. Kemal & A. Koçak leg. – Same province & district, Maden crossing 960m (56Fb), 7♂♀, 17.iv.2015, M. Kemal & A. Koçak leg. – E Turkey, Van Province, Gevaş, Göründü N 1800m (65Fb), 4♂1♀, 5.v.2016, M. Kemal & A. Koçak leg. – Same province, Bahçesaray, Vasting 1615m (65An), 9.v.2016, 1♂, M. Kemal & A. Koçak leg. – Same province & district, Paşaköy 1600m, 25.v.- 2.vi.2016, 2♂, M. Kemal & A. Koçak leg. (Cesa). – SE Turkey, Hakkari Province, Zap Valley, Ağaçdibi 1375m (30Bç1) 11♂♀, same place 1440m (30Bç2), 2♂, both on 5.x.2018; same province, Sulphur valley 1620m (30Bt1), 6.x.2018, M. Kemal & A. Koçak leg. (Cesa).

Remarks: This species inhabits mountainous and wooded area up to the subalpine zone (630-1800m). Adults are nocturnal and fly in spring (mid April-early June) [I. Generation?], and in autumn (October) [II. Generation?]. The present records are new to Malatya Province, and Gevaş district.

**26. *Chesistege korbi* (Bohatsch, 1910)**

Material studied: 1♂. SE Turkey, Hakkari Prov., Zap valley, Ağaçdibi 1440m (30Bç2), 5.x.2018, M. Kemal & A. Koçak leg. (Cesa).

Remarks: Recently reported from Dağlıca (Hakkari Prov., Yüksekova) (Kemal, Koçak & Uçak, 2018). New record for Hakkari district.

**27. *Chiasmia syriacaria* (Staudinger, 1871)****(Fig. 30)**

Material studied: 1♂. C Turkey, Ankara Province, Ankara 800m (06Fb), 20.vii.1972, A. Koçak leg. (Cesa).

Remarks: Further morphological and molecular investigations are needed in order to understand the affinities better the species *aestimaria*, *sareptanaria*, and *syriacaria*.

**28. *Cidaria fulvata* (Forster, 1771)**

Material studied: 1♂. NE Turkey, Gümüşhane Province, Lolollu 1820m, 13.vii.1985, A. Koçak leg. (Cesa). – 1♂. Van Province, Başkale, Ziyaniş E 2400m (65Bo), 9.vii.2015, M. Kemal & A. Koçak leg. (Cesa).

Remarks: This species is also known from Gevaş in Van Province (Koçak & Kemal, 2018). It is widely distributed and common in the forest zone of northern Turkey; whereas rare and local in southern regions.

**29. *Coenotephria ablutaria* (Boisduval, 1840) ssp. *hangayi* (Vojnits, 1986) (Figs. 31-33)**

Material studied: 1♂ (GP2991). SE Turkey, Hakkari Province, Zap valley, Ağaçdibi (Gehe) 1375m (30Bç1) 5.x.2018, M. Kemal & A. Koçak leg. (Cesa) (second generation).

Remarks: This species was also recorded by the authors from Van (Bahçesaray) (GP2346♂) (Kemal & Koçak, 2016c), and from İçel (Anamur) (GP2655♂) (first generation) (Kemal & Koçak, 2017a). The present record is new for Zap Valley and Hakkari Province (Kemal & Koçak, 2018a).

**30. *Crocallis (s.str.) loebeli* Stadie & Fiebig, 2014**

Material studied: 1♀. SE Turkey, Hakkari Province, Zap Valley, Ağaçdibi (Gehe) 1375m (30Bç1), 5.x.2018, M.Kemal & A.Koçak leg. (Cesa).

Remarks: This species is new for Zap Valley!

**31. *Docirava mundata* (Staudinger, 1892)**

Material studied: E Turkey, Van Province, Erek Mt., Sarmaç 2135m. (65Kl6), 4.ix.2018 19♂♀; same place, 16.ix.2018 4♂, M.Kemal & A.Koçak leg. (Cesa).

**32. \**Drepanopterula limaria* (Christoph, 1885)**

Material studied: 2♂. SE Turkey, Siirt Province, Şirvan, on the road of Ormanbaşı, Hesko 910m (56Fg), 24.iv.2008; 1♂. Hakkari Province, Zap Valley, Sulphur Valley 1620m (30Bt1), 18.v.2018; same province, Kırıkdağ 1475m (Dez Valley) (30Bc1), 20.v.2018, all by M.Kemal & A.Koçak leg. (Cesa).

Remarks: This vernal species is rare and local in SE Turkey. It was also reported and illustrated by the authors from Bahçesaray (Van Prov.) (Kemal & Koçak, 2016c).

**33. *Enanthyperythra legataria* (Herrich-Schäffer, [1852])**

Material studied: 1♂. NE Turkey, Bayburt Province, Maden 1700m (69Bc), 23.v.1973, A.Koçak leg.; 1♂. SW Turkey, Antalya Province, Koku Mts. 2000m (07Db), 5.v.1977, A.Koçak leg. (both in coll. Cesa).

Remarks: This vernal species is new for Bayburt and Antalya Provinces.

**34. *Eumera hoeferi* Wehrli, 1934**

Material studied: 1♂ [from terra typica]. E Turkey, Malatya Province, Kale E 860m (44Ic), 19.ix.2014 M. Kemal & A.Koçak leg. - 12♂1♀. Hakkari Prov., Zap valley, Ağaçdibi 1375m (30Bç1), 5.x.2018, M. Kemal & A.Koçak leg. (Cesa).

Remarks: This species was described by Wehrli from Malatya (East Turkey).

**35. *Gnophos (Dicrognophos) sartatus* Treitschke, 1827**

Material studied: 1♂. S Turkey, Hatay Province, Akbes 1000m (31M), 6.vi.1972, A.Koçak leg. (Cesa). 1♂. SE Turkey, Şırnak Province, Cudi Mt., Cevizdüzü 920m (73Df), 31.v.2008, M.Kemal & A.Koçak leg. (Cesa). Hakkari Province, Zap Valley, Ağaçdibi 1375m (30Bç1), 7♂♀; same place, Ağaçdibi 1440m (30Bç2), 3♂, both on 5.x.2018, M.Kemal & A.Koçak leg. (Cesa); same province, Sulphur Valley 1570m (30Bt1) 2♂, same place 1620m (30Bt1), both on 6.x.2018, M.Kemal & A.Koçak leg. (Cesa).

Remarks: This species was not reported from Şırnak (Kemal & Koçak, 2016a); therefore it is new for the province.

**36. \**Isturgia arenacearia* ([Denis & Schiffermüller], 1775)**

Material studied: 2♀. NE Turkey, Kars Province, Kağızman, Akçay 1200m (36Db), 10.vii.2007, M.Kemal & A.Koçak leg. (Cesa).

Remarks: This species is known in Turkey only from 5 provinces, Edirne, Kırklareli, Bursa, Ordu, and Kars. In East Turkey, the single record was made by the authors from Akçay 11 years ago.

**37. \**Isturgia hopfferaria* (Staudinger, 1879)****(Figs. 34-36)**

Material studied: 1♂. C Turkey, Ankara Province, Kepekli Pass 1200m (06Kc), 11.v.1977, A.Koçak leg. (Cesa).

Remarks: This species was reported and illustrated by the authors from Çatak (Darboğaz) and Bahçesaray (Kemal & Koçak, 2016c-d). The male genitalia of the species is given here (GP2295).

**38. \**Isturgia murinaria* ([Denis & Schiffermüller], 1775)**

Material studied: 1♀ (GP3019). NE Turkey, Iğdır Province, Hama Mt. 1680m (76Bf), 26.v.2012, M.Kemal & A.Koçak leg. (Cesa).

Remarks: This species is new for Iğdır Province (Koçak & Kemal, 2007; 2018).

**39. \**Isturgia ? suleiman* (Wehrli, 1936)**

Material studied: 1♀. E Turkey, Van Province, vicinity of Van city 1700m, 17.vii.1974, A. Koçak leg. (Cesa). 1♂ (GP3004). Van Province, Çatak, Konalga, in the opening of *Quercus* woodland 1800m (65Ds), 26.v.2001, M. Kemal & A. Koçak leg. (Cesa) - 1♀ (GP3005). Hakkari Province, Yüksekova, Kamışlı 2000m (30Dp), 19.vii.2003, M. Kemal & A. Koçak leg. (Cesa).

Remarks: Occurrence of this species in East Turkey is possible. But, further material is needed, in order to understand better the *Isturgia* species in East Turkey from the distributional, morphological, and molecular standpoints.

**40. *Larentia clavaria* Haworth, [1809]**

Material studied: 1♂. SE Turkey, Hakkari Province, Zap Valley, Ağaçdibi 1440m (30Bç2), 5.x.2018, M. Kemal & A. Koçak leg. (Cesa).

Remarks: This autumnal species was reported by the authors from Van (Çatak, Saklıvadi) (Kemal & Koçak, 2017b), and Hakkari (Dağlıca) (Kemal, Koçak & Uçak, 2018).  
New for Zap Valley.

**41. *Lithostege witzenmanni* Standfuss, 1892**

Material studied: 2♂. SE Turkey, Hakkari Province, Zap Valley, Sulphur Valley 1570-1620m (30Bt1), 18.v. and 18.vi.2018, respectively. M. Kemal & A. Koçak leg. (Cesa).

Remarks: This species was recently listed from Zap Valley by the authors (Kemal & Koçak, 2018a).

**42. *Odontognophos zacharius* (Staudinger, 1879)**

Material studied: 1♂. NW Turkey, Eskişehir Province, Sivrihisar 20km E, Oğlakçı 800m (26Ka), 12.x.1975, A. Koçak leg. (Cesa). 2♂ (GP739♂, A. Koçak, 1985). S Turkey, Niğde Province, Aladağ, Cimbar gorge 1700m, 4-10.ix.1980, A. Koçak leg. (Cesa). SE Turkey, Hakkari Province, Zap Valley, Ağaçdibi 1375m (30Bç1), 8♂, M. Kemal & A. Koçak leg. Same province, Ağaçdibi 1440m (30Bç2), 2♂, both on 5.x.2018, M. Kemal & A. Koçak leg. Same province, Sulphur Valley 1620m (30Bt1), 1♂1♀, same place 1570m (30Bt1), 1♀, M. Kemal & A. Koçak leg. (Cesa).

Remarks: This species is new for Eskişehir, Niğde, and Hakkari Provinces. Recently, this species was reported and illustrated by the authors from Van Province (Bahçesaray and Saklıvadi) (Kemal & Koçak, 2016c, 2017b).

**43. *Perconia strigillaria* (Hübner, 1787)**

Material studied: 4♂. NE Turkey, Iğdır Province, Gaziler (=Kulp) 1820m (76Dd), 30.v.2012, M. Kemal & A. Koçak leg. (Cesa).

Remarks: This species was found by the authors only in Iğdır Province in the East Turkey.

**44. *Phaselia serrularia* (Eversmann, 1847) (Fig. 37)**

Material studied: 2♂. E Turkey, Van Province, Çatak district, Elmacı 1810m (65Dx), 12.vii.2008, M. Kemal & A. Koçak leg. [new record for Çatak district]. - 1♂, same province, Gevaş district, Artos Mt. 1950m (65Fp), 2.ix.2011, M. Kemal & A. Koçak leg.; 1♂, same province and district, Artos Mt. 1980m (65Fp), 15.vii.2012, M. Kemal & A. Koçak leg. (Cesa). SE Turkey, Hakkari Province, Sulphur Valley 1570m (30Bt1) 1♂, same place 1620m 2♂, on 18.vi.2018, M. Kemal & A. Koçak leg. (Cesa).

Remarks: New for the fauna of Hakkari Province!

**45. *Pseudopanthera macularia* (Linnaeus, 1758)**

Material studied: 1♀. SW Turkey, Antalya Province, North of Akseki, Gembos plain 1200m (07Al), 14.vi.1986, A. Koçak leg. (Cesa)

Remarks: Generally, this species is widely distributed in the northern regions of Turkey. It inhabits in the openings of the forest zone of the mountains. Surprisingly, the female specimen was collected from Taurus Mountains, the southernmost place for the species in Turkey.

New for the fauna of Antalya Province.

**46. *Pungeleria capreolaria* (Fabricius, 1787)**

Material studied: 1♂. NW Turkey, Çankırı Province, Ilgaz Mt. 2000m (18F), 14.viii.1976, A. Koçak leg. - 1♀. Bolu Province, Abant road 1200m (14Bb), 4.vii.1981, A. Koçak leg. (Cesa).



**Remarks:** This species is new for the fauna of Çankırı Province (see also Özdemir, 2007).

**47. \**Ramitia kufrana* Seven, 2016**

**Material studied:** 2♀. E Turkey, Hakkari Province, Zap Police Station 1400m (30Bd) [currently Kırıkdağ], 14.v.1976, A.Koçak leg. (Cesa). - 1♂. Siirt Province, Baykan, Üççeşme 700m (56Ac), 3.v.2005, M.Kemal & A.Koçak leg. (Cesa). 1♀. Same province, Pervari, Kırıkkaya 1155m (56Dd), 17.iv.2010, M.Kemal & A.Koçak leg. (Cesa). - 2♂, Same province, Şirvan, Kasımlı 650m (56Ff), 1.iv.2011, M.Kemal & A.Koçak leg. (Cesa). 1♂. Same province, Şirvan, Nergisli 630m (56Fv), 18.iv.2015, M.Kemal & A.Koçak leg. (Cesa).

**Remarks:** The species is currently known only from SE Turkey (Hakkari, Siirt, Van, and Şırnak Provinces) (Koçak & Kemal, 2018).

**48. *Rhodostrophia bahara* Brandt, 1938**

**Material studied:** 1♂. E Turkey, Van Province, Saray, Keçikayası 2km E, 2080m (65Md), 4.vi.2009, M.Kemal & A.Koçak leg. (Cesa); 1♀, same province, Gevaş, Artos Mt. 2180m (65Fz), 11.vi.2012, M.Kemal & A.Koçak leg. (Cesa); 1♂, same province, Çaldıran, Tendürek Pass 2500m (65Cb), 16.vi.2012, M.Kemal & A.Koçak leg. (Cesa).

**Remarks:** Apparently, this species is more widely distributed in Van Province than expected.

**49. *Rhodostrophia cuprinaria* (Christoph, 1876)**

**Material studied:** 1♂. NE Turkey, Kars Province. Kağızman, Akçay 1200m (36Db), 10.vii.2007, M.Kemal & A.Koçak leg. (Cesa).

**Remarks:** This species was described by Christoph from North Iran (Schahrud). In Turkey, it is commoner in SE regions. In NE Turkey, this species is rare and local.

**50. \**Scotopteryx langi* (Christoph, 1885)**

**Material studied:** 2♂. E Turkey, Van Province, Gürpınar, Başet Mt. 2710m (65Gü), 7.viii.2018, M.Kemal & A.Koçak leg. (Cesa)

**Remarks:** This alpine species, described from Kazıkoparan (NE Turkey), is new for the fauna of Van Province!

**51. \**Synopsidia phasidaria* (Rogenhofer, 1873) (Fig. 38)**

**Material studied:** 1♂. E Turkey, Van Province, Gürpınar, Zerne 1975m (65Gb), 27.viii.2017, M.Kemal & A.Koçak leg. (Cesa)

**Remarks:** This species is locally distributed in southern Van Lake Basin. Originally described from Achalzich (Georgia), in Turkey it is known only from Bitlis, Van, Şırnak and Hakkari provinces. Colours on the wings are variable.

This species is new record for Zerne (cf. Kemal, Kızıldağ & Koçak, 2018).

**52. \**Wehrliola inexpectata* Kemal & Uçak, 2018**

**Material studied:** 1♂. SE Turkey, Hakkari Province, Zap valley, Ağaçdibi (Gehe) 1375m (30Bç1), 3♂ Ağaçdibi (Gehe) 1440m (30Bç2), both on 5.x.2018, M. Kemal & A.Koçak leg. (Cesa).

**Remarks:** This species was described by the authors (Kemal & Uçak, 2018) from Dağlıca (Hakkari, Yüksekova).

**53. \**Xanthorhoe inconsiderata* (Staudinger, 1892) (Figs. 39-41)**

**Material studied:** 2♂ 7♀ (GP2990). SE Turkey, Hakkari Province, Zap valley, Ağaçdibi (Gehe) 1375m (30Bç1), 2♀ from same place 1440m (30Bç2) both on 5.x.2018, M. Kemal & A.Koçak leg. (Cesa).

**Remarks:** This autumnal species was also recorded by Seven (2017) from Siirt (Şirvan). It is new to Hakkari Province.

**Lasiocampidae****54. *Trichiura sapor* Wiltshire, 1946**

Material studied: 3♂. SE Turkey, Hakkari Province, Yüksekova, Dağlıca 1530-1720m, 18-19.x.2017, H.Uçak leg. - 9♂. Hakkari Prov., Zap valley, Sulphur valley 1570-1620m, 6.x.2018, M. Kemal & A.Koçak leg. (Cesa).

Remarks: Previously, this species has not been listed from Dağlıca (Kemal, Koçak & Uçak, 2018). New for Hakkari Province!

**55. *Trichiura stroehlei* Zolotuhin, 2007**

Material studied: 1♂. SE Turkey, Hakkari Province, Yüksekova, Dağlıca 1505m, 15.x.2017, H.Uçak leg. (Cesa).

Remarks: Previously, this species has not been listed from Dağlıca (Kemal, Koçak & Uçak, 2018). New for Hakkari Province!

**Noctuidae****56. *Agrotis (Crassagrotis) obesa* (Boisduval, 1829)**

Material studied: SE Turkey, Hakkari Province, Zap valley, Ağaçdibi (Gehe) 1375m (30Bç1) 1♂, same place 1440m (30Bç2), 5♂, both on 5.x.2018; Sulphur Valley 1570-1620m, (30Bt1), 24♂1♀, 6.x.2018, M. Kemal & A.Koçak leg. (Cesa).

Remarks: Hindwings of all the specimens are dark coloured.

**57. \**Agrotis (Powellinia)* aff. *pierreti* (Bugnion, 1837)****(Figs. 42, 43)**

Material studied: 1♂(GP2992). S Turkey, Hatay Province, Samandağ, Karabucak 35m, 16.x.2015, O.Sertel leg. (Cesa).

Remarks: A single male was collected from southernmost place, Meydan, of Hatay Province (S. Turkey). Externally it looks like *pierreti* Bugn. to some degree. After comparing the genitalia with the illustrations of *A. lasserrei* and *pierreti* (Fibiger, 1997: 244, figs.83, 84), it is hard to decide about the specific identity.

The specimen is here temporarily placed near to *pierreti* Bign. It seems to be the first record in Turkey.

**58. *Allophyes (Crassophyes) renalis armeniaca* (Boursin, 1944) (Figs. 44, 45)**

Material studied: 3♂ (1♂, GP2985). SE Turkey, Hakkari Prov., Yüksekova, Dağlıca 1530m, 19.x.2017; 1♂, same place 1505m, 15.x.2017, H. Uçak leg. (Cesa). - 2♂. Hakkari Province, Zap valley, Sulphur valley 1620m (30Bt1), 6.x.2018, M.Kemal & A.Koçak leg. (Cesa).

Remarks: Hacker (1990: Taf.5 fig.8) illustrated the type of *armeniaca* Boursin from Armenia (Negram), and a male (Hacker, 1990: Taf.9 fig.8) from "Türkei, Prov. Hakkari, Kotranis 1800m [30Bp, Erziki valley] 11.x.1986 (coll. Moberg)".

**59. *Atethmia ambusta* (Fabricius, 1787)**

Material studied: 1♀. SE Turkey, Hakkari Province, Zap Valley, Ağaçdibi 1375m (30Bç1), 5.x.2018, M. Kemal & A.Koçak leg. (Cesa).

Remarks: The present record is new for Hakkari Province. Autumnal and sympatric with *Atethmia centrargo*.

**60. *Calyptra thalictri* (Borkhausen, 1790)**

Material studied: 1♂. C Turkey, Kayseri Prov., Bünyan 1430m, 1.viii.1992, A.Koçak & S.Seven leg. (Cesa).

Remarks: This is one of the little known species in Turkey. The present record is new for Kayseri Province!

**61. *Catocala (s.str.) lesbia* Christoph, 1887**

Material studied: 1♂. SE Turkey, Hakkari Prov., Zap valley, Ağaçdibi 1375m (30Bç1), 5.x.2018, M.Kemal & A.Koçak leg. (Cesa).

Remarks: New for Zap Valley in Hakkari.

**62. *Chersotis (s.str.) gratissima* (Corti,1932)**

Material studied: 1♂. SE Turkey, Bitlis Province, Adilcevaz, Kızdağı 2560m (13Ac1) 19.viii.2017, M.Kemal, A.Koçak & H.Uçak leg. (Cesa). 1♀. E. Turkey, Van Province, Erek Mt. 2135m (65Kl6), 16.ix.2018, M. Kemal & A.Koçak leg. (Cesa).

Remarks: New record for Erek Mt. (Van), and also Bitlis Province (Süphan Mt.).

**63. *Chersotis (s.str.) margaritacea* (De Villers,1789)**

Material studied: 2♂. SE Turkey, Hakkari Province, Zap Valley, Ağaçdibi 1440m (30Bç2), 5.x.2018, M.Kemal & A.Koçak leg. (Cesa).

Remarks: Apparently, new for the fauna of Hakkari Province.

**64. *Cucullia santonici* (Hübner,[1813])**

Material studied: 1♂ (GP2986). E Turkey, Van Province, Bahçesaray, Upper Mukus Valley 1840m (65Am4), 10.vi.2016, M. Kemal & A.Koçak leg. (Cesa).

Remarks: This species is new for Van Province!

**65. \**Diloba caeruleocephala* (Linnaeus,1758) (Figs. 81-85)**

Material studied: 1♂ 1♀. SE Turkey, Hakkari Province, Zap Valley, Sulphur Valley 1620m (30Bt1), ex larvae, emerged on 11.xi.2018, M. Kemal & A.Koçak leg. (Cesa).

Remarks: The caterpillars were collected by the first author on 17.v.2018 on the leaves of *Frangula alnus*, and reared in captivity. Two adults emerged in November 2018. Faunistically, this species is new for Hakkari Province. Besides, a new larval food-plant for the species, *Frangula alnus* ssp. *pontica* (*Rhamnaceae*) (det. M. Fırat) is reported here as new larval food-plant for the first time. Habitat and larval food-plant of the species are also illustrated here.

**66. *Dichagyris (s.str.) amoena* (Staudinger,1892)**

Material studied: SE Turkey, Hakkari Province, Zap valley, Ağaçdibi 1375m (30Bç1), 2♂; Ağaçdibi 1440m (30Bç2) 1♂, both on 5.x.2018; Sulphur valley 1570-1620m (30Bt1), 6.x.2018 8♂, leg. M. Kemal & A.Koçak (Cesa).

Remarks: New for Zap Valley in Hakkari.

**67. *Dichagyris (s.str.) singularis* (Staudinger,1877)**

Material studied: SE Turkey, Hakkari Province, Zap valley, Ağaçdibi 1375m (30Bç1), 6♂; Ağaçdibi 1440m (30Bç2) 4♂, both on 5.x.2018; Sulphur valley 1570-1620m (30Bt1), 6.x.2018 5♂, leg. M. Kemal & A.Koçak (Cesa).

Remarks: New for Zap Valley in Hakkari.

**68. *Dichonia aeruginea* (Hübner,[1803]) (Fig. 46)**

Material studied: 28♂ (1♂, GP2982). SE Turkey, Hakkari Province, Yüksekova, Dağlıca 1503-1530m, 15-20.x.2017, H.Uçak leg.

Remarks: The subspecies of this species fits well to ssp. *topali* from northern Iraq (Dohuk) (Ronkay & Varga,1986).

**69. *Eublemma pusillum* (Eversmann,1834)**

Material studied: 1♂. E Turkey, Van Province, Başkale, Ziyaniş E 2400m (65Bo), 9 vii.2015, M. Kemal & A.Koçak leg. (Cesa).

Remarks: This is one of the rare species in the region.

**70. *Euchalcia hyrcaniae* Dufay,1963**

Material studied: 1♂. E Turkey, Van Province, Başkale, Ziyaniş E 2400m (65Bo), 9 vii.2015, M. Kemal & A.Koçak leg. (Cesa).

**71. *Euchalcia taurica* (Osthelder, 1933)**

Material studied: 1♂. E Turkey, Van Province, Başkale, Ziyaniş E 2400m (65Bo), 9 vii.2015, M. Kemal & A.Koçak leg. (Cesa).

**72. *Eugnorisma (Metagnorisma) enargiaris* (Draudt, 1936)**

Material studied: SE Turkey, Hakkari Province, Yüksekova, Dağlıca, 15-20.x.2017, 27♂♀, H. Uçak leg. – Zap valley, Ağaçdibi 1375m (30Bç1) 8♂, Ağaçdibi 1440m (30Bç2) 2♂, both on 5.x.2018, M. Kemal & A.Koçak leg. (Cesa).

Remarks: New for Zap Valley in Hakkari.

**73. *Gortyna cervago* Eversmann, 1844**

Material studied: 1♂. E Turkey, Van Province, Çatak, Saklıvadi 2030m, 8.x.2016, M.Kemal & A.Koçak leg. (Cesa). - 1♂. Van Province, Bahcesaray, Upper Mukus Valley, 1840m 23.x.2016, M.Kemal & A.Koçak leg. (Cesa). - 2♂. Hakkari Province, Dağlıca 1515-1520m, 20.x.2017 H. Uçak leg.

Remarks: This species is new record for Zap Valley and Hakkari district (Kemal & Koçak, 2018a).

**74. *Gortyna moesiaca* Herrich-Schäffer, [1849]**

Material studied: 1♂. E Turkey, Van Province, Çatak, Saklıvadi 2030m, 8.x.2016, M.Kemal & A.Koçak leg. (Cesa). - 1♂. Hakkari Province, Dağlıca 1505m, 15.x.2017 H. Uçak leg. (Cesa).

Remarks: Previously, this species has not been listed from Dağlıca (Kemal, Koçak & Uçak, 2018). New for Hakkari Province!

**75. *Gortyna osmana* Hacker & Kuhna, 1986**

Material studied: 1♂. SE Turkey, Hakkari Province, Dağlıca 1530m, 19.x.2017 H. Uçak leg. (Cesa).

Remarks: Previously, this species has not been listed from Dağlıca (Kemal, Koçak & Uçak, 2018). New for Hakkari Province!

**76. *Hypeuthina fulgurita* Lederer, 1855 (Fig. 47)**

Material studied: 2♂. Hatay Province, Samandağ, Karabucak 35m, 15.x.2015, O.Sertel leg. (Cesa).

Remarks: This species was previously known from Kahramanmaraş, Siirt and Şanlıurfa Provinces. The record from Hatay is first illustrated here (Kemal & Koçak, 2015).

**77. *Lamprosticta culta* ([Denis & Schiffermüller], 1775)**

[#*culta* [Denis & Schiffermüller], 1775 (without description; nomen nudum!)]

Material studied: 1♂. C Turkey, Kayseri Province, Bünyan 1430m, 1.viii.1992, A.Koçak & S.Seven leg. (Cesa).

Remarks: This is one of the little known species in Turkey. The present record is new for Kayseri Province, and it may attributed to *albescens* Hacker, 1990 subspecifically.

**78. *Leucochlaena muscosa* (Staudinger, 1892)**

Material studied: SE Turkey, Hakkari Province, Zap valley, Ağaçdibi 1375m (30Bç1), 14♂1♀; Ağaçdibi 1440m (30Bç2) 11♂, both on 5.x.2018; Sulphur valley 1570-1620m (30Bt1), 6.x.2018 11♂1♀, leg. M. Kemal & A.Koçak (Cesa).

Remarks: Autumnal adults common in the province. New for the fauna of Hakkari.

**79. \**Maraschia grisescens* Osthelder, 1933**

Material studied: SE Turkey, Hakkari Province, Yüksekova, Dağlıca 1505-1520m, 20 ix.- 15.x. 2017, 9♂♀, H. Uçak leg. – Zap valley, Ağaçdibi 1375m (30Bç1) 1♂1♀, Ağaçdibi 1440m (30Bç2) 1♂1♀, both on 5.x.2018, Sulphur valley 1620m (30Bt1) 1♂2♀, M. Kemal & A.Koçak leg. (Cesa).

Remarks: Previously, this species has not been listed from Dağlıca (Kemal, Koçak & Uçak, 2018). New for Hakkari Province!

**80. \**Ostheldera ? arne* L.Ronkay & Varga, 1994**

Material: SE Turkey, Hakkari Province, Yüksekova, Dağlıca 1505-1720m (30Df) 2♂1♀, 15-18.x.2017, H.Uçak leg. (Cesa); Hakkari Province, Zap Valley, Ağaçdibi 1375m (30Bç1) 17♂3♀; same place 1440m (30Bç2) 3♂1♀, both on 5.x.2018, M.Kemal & A.Koçak leg. (Cesa).

**81. \**Ostheldera* ? *gracilis* (Osthelder, 1933)**

Material: SE Turkey, Hakkari Province, Sulphur Valley 1620m (30Bt1), 6♂2♀, 6.x.2018, M.Kemal & A.Koçak leg. (Cesa).

Remarks: There are 2-3 species of *Ostheldera* in Hakkari. According to the hindwing colouration, the identities of two species are temporarily. The genus will be separately studied.

**82. *Paracolax tristalis* (Fabricius, 1794)**

Material studied: 1♀. NE Turkey, Ardahan Province, Posof 1460m (75Fd), 12.viii.2007, M.Kemal & A.Koçak leg. (Cesa).

Remarks: This species is new for the fauna of Ardahan Province.

**83. *Polymixis (Brandticola) dubiosa* (Brandt, 1938)**

Material studied: SE Turkey, Hakkari Province, Zap valley, Ağaçdibi 1375m (30Bç1), 5.x.2018, 1♂; same province, Sulphur Valley 1620m (30Bt1), 6.x.2018, 1♂, M.Kemal & A.Koçak leg. (Cesa).

Remarks: This species was recently reported from Hakkari Province (Dağlıca) (Kemal, Koçak & Uçak, 2018). It is also common in Van Province (Bahçesaray, Gevaş: Artos Mt.).

**84. *Polymixis (s.str.) crinomima* (Wiltshire, 1946)**

Material studied: SE Turkey, Hakkari Province, Zap valley, Ağaçdibi 1375m (30Bç1), 1♂, 5.x.2018, M.Kemal & A.Koçak leg. (Cesa).

Remarks: New for Hakkari Province!

**85. *Polymixis (s.str.) ivanchiki* Pekarsky, 2012**

Material studied: 1♀. SE Turkey, Hakkari Province, Zap Valley, Ağaçdibi 1440m (30Bç2), 5.x.2018, M. Kemal & A.Koçak leg. (Cesa).

Remarks: This little known species is new for Hakkari Province.

**86. *Shargacucullia armena* G.Ronkay & L.Ronkay, 1986 (Figs. 48, 49)**

Material studied: 1♂ (GP2987). E Turkey, Van Province, Bahçesaray, Upper Mukus Valley 1840m (65Am4), 3.vi.2016, M.Kemal & A.Koçak leg. (Cesa).

Remarks: This little known species is new for Bahçesaray district.

**87. *Tiliacea cypreago* (Hampson, 1906) (Figs. 50, 51, 86-96)**

Material studied: E Turkey, Van Province, Gevaş, Altınsaç 1670m (65Fd), 2♂ ex larvae on *Acer monspessulanum*, on 30.iv.2016; emerged on 01.x.2016 and 10.x.2016 respectively. - 15♂. SE Turkey, Hakkari Prov., Yüksekova, Dağlıca 1500-1785m, 15-18.x.2017, H.Uçak leg. - Hakkari Prov., Zap valley, Ağaçdibi 1375m (30Bç1) 1♂ on 5.x.2018; Zap valley, Sulphur valley 1620m (30Bt1) 1♂ on 6.x.2018, M.Kemal & A.Koçak leg. (Cesa).

Remarks: *Acer monspessulanum* as larval food-plant of this species is reported here for the first time. Habitat and larval food-plant of the species are also illustrated here.

New records for the fauna of Van and Hakkari Provinces!

**88. *Xestia (s.str.) xanthographa* ([Denis & Schiffermüller], 1775)**

Material studied: 4♂2♀. SE Turkey, Hakkari Province, Zap valley, Ağaçdibi (Gehe) 1375m (30Bç1) 5.x.2018, M. Kemal & A.Koçak leg. (Cesa).

Remarks: New for Hakkari Province!

***Oecophoridae*****89. *Alabonia staintoniella* (Zeller, 1850)**

Material studied: 1♂. NW Turkey, Bolu Province, Abant road 1100m (14Bb), 13.vi.1981, A.Koçak leg. (Cesa).

Remarks: New record for Bolu Province!



- 90. *Depressaria discipunctella* (Herrich-Schäffer,[1854]) (Figs. 52, 53)**  
Material studied: 1♂ (GP2948). E Turkey, Van Province, Erek Mt. 2130m. (65Kl3), 9.iv.2018, M. Kemal & A.Koçak leg. (Cesa).  
Remarks: This species was previously reported and illustrated by Buchner (2017) from Adana, Ankara, Gümüşhane, Kars, Isparta and Yozgat.  
 The present record is new for the fauna of Van Province.
- 91. *Depressaria ululana* Rössler,1866 (Figs. 54, 55)**  
Material studied: 1♂ (GP2949). E Turkey, Van Province, Edremit, Elmalık 1730m (65Le), 31.v.2017, M. Kemal & A.Koçak leg. (Cesa).  
Remarks: As in the previous species, it was reported and illustrated by Buchner (2017) from Ağrı and Diyarbakır Provinces. The male genitalia of the specimen from Van (Elmalık) fits well to *Depressaria ululana* Rössler, given by Buchner.  
 New record for the fauna of Van Province.
- 92. *Depressaria zelleri* Staudinger,1879 (Figs. 56, 57)**  
Material studied: 1♂ (GP2893). E Turkey, Van Province, Çatak, Narlı 1900m (65Dş), 22.v.2004, M. Kemal & A.Koçak leg. (Cesa).  
Remarks: This species was recently reported and illustrated by the authors from Mutki (Bitlis Province) (Kemal & Koçak, 2017d).  
 New record for Van Province!
- 93. *Fabiola* sp.**  
Material studied: 2♂ (GP3029). NW Turkey, Bolu Province, Abant road 1200m (14Bb), 12.vi.1980, A.Koçak leg.; 1♂ (GP3024). Bitlis Province, Mutki, Çaygeçit (13F28), M. Kemal & A.Koçak leg. (Cesa)  
Remarks: The specimens resemble to some degree to *Fabiola pokornyi* externally. When the male genitalia from Bolu and Bitlis provinces are compared with the image of *F. pokornyi*, drawn by Toll (1964), some important differences are observed between them. Upon this, our colleague Mr. Peter Buchner dissected a male specimen of *pokornyi* collected from Prag, preserved in Wien Museum. The genitalic images, drawn by Toll (1964) and also by Buchner reveal that the *Fabiola* species from Turkey is different from *Fabiola pokornyi*. The species *pokornyi* is the sole representative of the genus *Fabiola* in the West Palearctic. Therefore, the finding in Turkey, may be a new species in this genus. However, more materials and investigations are preferred by the authors, before going further on the taxonomy of this interesting species.
- 94. *Hypercallia citrinalis* (Scopoli,1763)**  
Material studied: 1♂. NE Turkey, Bayburt Province, Bayburt 1550m (69B), 2.viii.1972, A.Koçak leg. (Cesa)  
Remarks: New record for Bayburt Province!
- 95. *Oecophora bractella* (Linnaeus,1758)**  
Material studied: 1♂. NW Turkey, Bolu Province, Abant road 1100m (14Bb), 4.vii.1981, A.Koçak leg. (Cesa).  
Remarks: New record for Bolu Province!

## *Pyralidae*

- 96. \**Cholius luteolaris* (Scopoli,1772), ssp. *albescentalis* (Hampson,1900) (Figs. 58, 59)**  
Material studied: 1♂. SE Turkey, Şırnak Province, Beytüşşebap, Öküz mağarası 1250m (73Ad1), 15.viii.2013, M.Kemal & A.Koçak leg. (Cesa). 1♂(GP3027). Hakkari Province, Sulphur Valley 1570m (30Bt1), 18.vi.2018, M.Kemal & A.Koçak leg. (Cesa).  
Remarks: Hampson (1900: 395) described the taxon as “*Pionea albescentalis*” from Mardin [SE Turkey]. Amsel (1952) revised the taxa, described by Hampson, and placed *albescentalis* as a valid subspecies of *Cholius ochrealis* [Denis & Schiffermüller],1775. Finally the name *ochrealis* is

replaced by *luteolaris* Scopoli by Leraut (1984), due to the priority rule. The two males, collected by the authors are, almost completely whitish upperside of the wings, belong to the subspecies *albescentalis* Hampson, 1900. The adult and the genitalia of this subspecies are first illustrated here.

New records for the fauna of Şırnak and Hakkari Provinces.

**97. \*Evergestis boursini** Amsel, 1939

Material studied: 2♂. E Turkey, Van Province, Erek Mt., Sarmaç 2135m. (65Kl6), 16.ix.2018, M. Kemal & A. Koçak leg. (Cesa).

Remarks: Previously, this species was recorded and illustrated by the authors from Saklıvadi (Van, Çatak) (Kemal & Koçak, 2017b).

**98. Evergestis frumentalis** (Linnaeus, 1761)

Material studied: 6♂. NE Turkey, Iğdır Province, Kentormanı 960m (76Bb), 9.v.2012; 2♂. Same province, Aralık DÜÇ 810m (76Ac), 13.v.2012, all collected by M. Kemal & A. Koçak (Cesa).

Remarks: This vernal species is also known from Hama Mt. (Iğdır Prov.) (76Bf) (in litt.).

**99. \*Evergestis pazukii** (Alipanah, 2018)

(Figs. 60-63)

Material studied: 1♂ (GP2537). E Turkey, Van Province, Başkale, Ziyaniş 2400m (65Bo), 9.vii.2015, M. Kemal & A. Koçak leg. (Cesa).

Remarks: The species was described by Alipanah (2018) from Iran. In this year this species was listed by the authors in two papers but without illustration and information (Kemal & Koçak, 2018b: 100; Koçak & Kemal, 2018: 295). This is the single record of this species in Turkey.

**100. \*Dolicharthria intervacatalis** (Christoph, 1877)

Material studied: 2♂. SE Turkey, Hakkari Province, Yüksekova, Yeşiltaş 1350m. (30Dx), 21.vii.2003, M. Kemal & A. Koçak leg. (Cesa).

Remarks: In summer, this species is rather common in Hakkari Province.

**101. \*Megasis libanoticella** Zerny, 1934

(Figs. 64-66)

Material studied: 1♂ (GP2864). E Turkey, Malatya Province, Darende, Beybağı 1.6km N 1200m (44Ei), 25.v.2017, A. Koçak leg. (Cesa).

Remarks: New for the fauna of Malatya Province!

**102. \*Pyrausta pavidalis** Zerny, 1935

Material studied: E Turkey, Van Province, Erek Mt., Sarmaç 2135m (65Kl6), 2♂, 16.ix.2018, M. Kemal & A. Koçak leg. (Cesa). - SE Turkey, Hakkari Prov., Zap valley, Ağaçdibi 1375m (30Bç1), 9♂♀; Ağaçdibi 1440m (30Bç2) 16♂, both on 5.x.2018, leg. M. Kemal & A. Koçak (Cesa).

Remarks: This species is widely distributed in South and East Turkey (Kemal & Koçak, 2017b, 2017c; Kemal, Koçak & Uçak, 2018).

## Saturniidae

**103. \*Saturnia (Neoris) naessigi** (De Freina, 1992)

(Fig. 67)

Material studied: 3♂. SE Turkey, Hakkari Province, Zap valley, Ağaçdibi (Gehe) 1375m (30Bç1), 5.x.2018, M. Kemal & A. Koçak leg. (Cesa).

Remarks: This species is recorded here for the first time from Zap Valley<sup>3</sup> (Kemal & Koçak, 2018a)

<sup>3</sup> Pittaway reported this species from Hakkari without precise locality information. [http://tpittaway.tripod.com/silk/n\\_hut.htm](http://tpittaway.tripod.com/silk/n_hut.htm)

***Stathmopodidae*****104. *Tortilia* aff. *graeca* Kasy, 1981**

Material studied: 2♂. SE Turkey, Hakkari Province, Zap valley, Ağaçdibi (Gehe) 1375m (30Bç) 7.vii.2018; 2♂. SE Turkey, Hakkari Province, Zap valley, Sulphur valley 1570-1620m. (30Bt1), 8.vii.2018, M. Kemal & A.Koçak leg. (Cesa).

Remarks: Identity of the specimens based upon the external features. Koster & Sinev (2003: 67) reported this species from Turkey without locality.  
New for the fauna of Hakkari.

***Tineidae*****105. *Monopis imella* (Hübner, [1813]) (Figs. 68-70)**

Material studied: 1♂ (GP2903). E Turkey, Van Province, Bahçesaray, Vasting 1660m (65An), 4.vi.2016, M. Kemal & A.Koçak leg. (Cesa)

Remarks: This species is recorded here for the first time for Van Province.

***Ypsolophidae*****106. *Ypsolopha dentella* (Fabricius, 1775)**

Material studied: 1♂. NE Turkey, Ardahan Province, Posof 1460m (75Fd), 12.viii.2007, M. Kemal & A.Koçak leg. (Cesa).

Remarks: This little known species in Turkey is new for the fauna of Ardahan Province.

***Zygaenidae*****107. *Jordanita subsolana* (Staudinger, 1862) (Fig. 71)**

Material studied: 1♂ (GP2745). SE Turkey, Mardin Province, Artuklu Sultanköy 1.7km E 1050m (47Dc), 15.v.2017, M. Kemal & A.Koçak leg. (Cesa).

Remarks: This species is new for the fauna of Mardin Province.

**Acknowledgements:**

We thank to Mr. Peter Buchner (Austria) for his kind help on the information of *Fabiola pokornyi*, to Dr. Mehmet Fırat (Van Yüzüncü Yıl University, Turkey) for identification of *Frangula alnus* ssp. *pontica*, and to Hanife Uçak for allowing us studying some material from Dağlıca, collected by her.

## References

- Alipanah, H., Khodadad, M., Rajaei, H. & M. Haseli**, 2018, Taxonomic study of the genus *Evergestis* Hübner, 1825 (Lepidoptera: Crambidae: Glaphyriinae) in Iran with description of a new species. *Zootaxa* 4420 (1): 1-33.
- Amsel, H. G.**, 1952, Über einige von Hampson beschriebene paläarktische Pyraliden (Lepidoptera: Pyralidae). *Mitt. münch. ent. Ges.* 42: 40–70.
- Amsel, H. G.**, 1959, Irakische Kleinschmetterlinge II. *Bull. Soc. ent. Egypte* 43: 41-83, Taf.
- Buchner, P.**, 2017, Faunistic records of Depressariidae (Lepidoptera, Gelechioidea) from Turkey a result of studies for Microlepidoptera of Europe Depressariinae. *Cesa News* 134: 1-34, figs.
- Efil, L., Atay, E. & F. Efil**, 2018, The first record for *Tebenna micalis* (Lepidoptera, Choreutidae) in Çanakkale Province of Turkey and external and genital morphology of the species. *Karadeniz Fen Bilim. Derg.* 8 (1): 158-164, figs.
- Fibiger, M.**, 1997, *Noctuidae III. Noctuidae Europaeae*. Vol. 3. Entomological Press, Sorø, Denmark.
- Gozmány, L.** 2008. *Symmocidae*. [in] R. Gaedike (ed.), *Microlepidoptera Palaearctica* 13. 558 pp Text & Tafeln. Goecke & Evers, Keltern.
- Gregersen, K. & O. Karsholt**, 2017, Taxonomic confusion around the Peach Twig Borer, *Anarsia lineatella* Zeller, 1839, with description of a new species (Lepidoptera, Gelechiidae). *Nota lepid.* 40 (1): 65-85, figs.
- Hacker, H.**, 1990, Die Noctuidae Vorderasiens (Lepidoptera). *Neue ent. Nachr.* 27: 1-707, figs.
- Hampson, G. F.**, 1900, New Palaearctic Pyralidae. – *Trans. Ent. Soc. Lond.* 1900: 369–401, pl. 3.
- Huemer, P. & O. Karsholt**, 1999, *Microlepidoptera of Europe volume 3, Gelechiidae I*. 356 pp. Apollo Books.
- Kasy, F.**, 1981, Data to the lepidopterous fauna of Greece (based on the collections of G. Christensen and L. Gozmany) 3. Eine neue *Tortilia* (Lepid., Oecophoridae). *Z. ArbGem Öst. Ent.* 33 (1/2): 30-32, figs.
- Kemal, M. & A. Ö. Koçak**, 2006, Diurnal Lepidoptera in the Nemrut Crater (East Turkey). *Cent. ent. Stud., Misc. Pap.* 101: 1-8.
- Kemal, M. & A. Ö. Koçak**, 2015, On the Pterygota fauna of Hatay Province (S. Turkey), based upon the info-system of the Cesa. *Cesa News* 102: 16 - 233, 101 figs. 34 maps.
- Kemal, M. & A. Ö. Koçak**, 2016a, Illustrative notes on the entomo-fauna and the flora of Cudi Mountain (Sirnak Prov., SE Turkey). *Cesa News* 123: 1-22, 69 figs.
- Kemal, M. & A. Ö. Koçak**, 2016b, On the Entomofauna of the eastern slopes of Alacabük mountain (Gevaş district, Van Province, East Turkey). *Cesa News* 124: 1-31, 74 figs.
- Kemal, M. & A. Ö. Koçak**, 2016c, On the Geometridae fauna of Bahçesaray district, together with some morphological and eco-faunistic notes (Van Province, East Turkey) (Lepidoptera). *Priamus* 14 (2): 76-119, 69 figs. 32 maps.
- Kemal, M. & A. Ö. Koçak**, 2016d, Annotated and pictorial list of the Çatak Lepidoptera. *Priamus* (Suppl.) 41: 1-118, 95 figs.
- Kemal, M. & A. Ö. Koçak**, 2017a, Some vernal Lepidoptera of SE Turkey, faunistic results of a short trip made in 2017 with some taxonomic and bionomic notes. *Cesa News* 133: 1-16, 26 figs.
- Kemal, M. & A. Ö. Koçak**, 2017b, On the Lepidoptera fauna of a single locality, Saklıvadi (Van Province, East Turkey). *Priamus* 15 (1): 1-80, 101 figs., 45 maps, 1 Tab.
- Kemal, M. & A. Ö. Koçak**, 2017c, On the Microlepidoptera of Bahçesaray district (Van Province, East Turkey). *Priamus* 15 (3): 125-164, 105 figs.
- Kemal, M. & A. Ö. Koçak**, 2017d, On the moths of Mutki district (Bitlis Province, East Turkey) (Lepidoptera). *Cesa News* 150: 2-46, 93 figs.
- Kemal, M. & A. Ö. Koçak**, 2018a, First faunistic results of the Lepidoptera of Zap Valley in Hakkari Province (SE Turkey). *Priamus* 16 (4): 119-199, 8 figs.
- Kemal, M. & A. Ö. Koçak**, 2018b, Revised synonymous list of the Pterygot insects in Van Province (East Turkey). *Priamus* 17 (1): 1-112, 1 Table.
- Kemal, M. & H. Uçak**, 2018, Description of a new species of the genus *Wehrliola* Strand in East Turkey (Lepidoptera, Geometridae). *Cent. ent. Stud., Misc. Pap.* 168: 1-4, 11 figs.
- Kemal, M. Koçak, A. Ö. & H. Uçak**, 2018, List of the Lepidoptera species of Dağlıca (Hakkari Province, SE Turkey). *Cesa News* 159: 1-21, 22 figs. 1 map.
- Kemal, M. Kızıldağ, S. & A. Ö. Koçak**, 2018, Preliminary list of the Lepidoptera of Zernek, with some faunistic, taxonomical, and molecular remarks (East Turkey, Van Province). *Misc. Pap.* 171: 1-16, 41 figs.
- Kemal, M., Yıldız, I., Kızıldağ, S., Uçak, H. & A. Ö. Koçak**, 2018, Taxonomical and molecular evaluation of *Apochima* Agassiz in East Turkey, with a description of a new genus (Lepidoptera, Geometridae, Ennominae). *Misc. Pap.* 169: 1-13, 1 Table, 27 figs., 1 map.
- Koçak, A. Ö.**, 2008, Description of *Choreutis muhabbet* sp.n. (Choreutidae, Lepidoptera). *Cent. ent. Stud., Misc. Pap.* 142: 6-7.

- Koçak, A.Ö. & M. Kemal**, 2007, Synonymical and distributional List of the species of Iğdır Province (North East Turkey) (Lepidoptera). *Misc. Pap.* 129/130: 1-12.
- Koçak, A.Ö. & M. Kemal**, 2018, A synonymous and distributional list of the species of the Lepidoptera of Turkey. *Cent. ent. Stud., Memoirs* 8: 1-487.
- Koster, J.C. & S.Y. Sinev**, 2003, *Microlepidoptera of Europe* volume 5. Momphidae, Batrachedridae, Stathmopodidae, Agonoxenidae, Cosmopterigidae, Chrysopeleidae. Apollo Books, Stenstrup.
- Leraut, P. J. A.**, 1984, Contribution à l'étude des Scopariinae. 4. Révision des types décrits de la région paléarctique occidentale, description de dix nouveaux taxa et ébauche d'une liste des espèces de cette région. *Alexanor* 13 (1983) (4): 157-192.
- Mann, J.**, 1862, Verzeichniss der im Jahre 1851 bei Brussa in Kleinasien gesammelten Schmetterlinge. *Wien. Ent. Monatschr.* 6: 356-371, 373-409, Taf.
- Meyrick, E.**, 1936-1937, *Exotic Microlepidoptera* volume 5. 160pp.
- Osthelder, L.**, 1935, Microlepidopteren (Fortsetzung). [in] Osthelder, L. & E. Pfeiffer, Lepidopteren-Fauna von Marasch in türkisch Nordsyrien. *Mitt. münch. ent. Ges.* 25 (2): 56-58; 25 (3): 67-90.
- Özdemir, M.**, 2007, Studies on the Geometridae fauna of the Provinces Bolu and Düzce in North-West Turkey (Lepidoptera). *Priamus* (Suppl.) 7: 1-154, figs.
- Ragonot, E.L.**, 1895, Microlépidoptères de la Haute-Syrie récoltés par M. Ch. Delagrange, et descriptions des espèces nouvelles. *Bull. Soc. ent. Fr.* 1895: xciv-cix.
- Riedl, T.**, 1969, Matériaux pour la connaissance des Momphidae paléarctiques (Lep.). Partie ix. Revue des Momphidae européens, ya compris quelques espèces d'Afrique du Nord et du Proche-Orient. *Polskie pismo Ent.* 39 (4): 635-919, 414 figs.
- Romanoff, N.M.**, 1887, Les Lépidoptères de la Transcaucasie. Troisième partie. [in] Romanoff, N.M., *Mém. lépid.* 3: 1-49.
- Ronkay, L. & Z. Varga**, 1986, New taxonomic and Zoogeographic data for some groups of Palaearctic Cuculliinae (Lepidoptera: Noctuidae) I. *Folia ent. Hung.* 47: 149-161.
- Seven, E.**, 2017, On the distribution of an endemic geometrid Moth, *Xanthorhoe inconsiderata* (Staudinger, 1892) (Lepidoptera). *Iğdır Uni. Fen Bilim. Enst. Derg.* 7 (3): 45-48, figs.
- Toll, S.**, 1964, Część XXVII. Motyle – Lepidoptera. Oecophoridae. Klucze do Oznaczania Owadów Polski 43 (35): 1-174, 755 figs. Warszawa.
- Yakovlev, R.V.**, 2008a, New species of Palaearctic and Oriental Cossidae (Lepidoptera) I. Two new species from Genus Cossulus Staudinger, 1887 from Turkey and Kyrgyzstan. *Eversmannia* 15-16: 44-46, figs.
- Yakovlev, R.V.**, 2008b, New species of Palaearctic and Oriental Cossidae (Lepidoptera). IV. New taxa of the genus *Dyspessa* Hubner, [1820] from South-Western Palaearctic. *Eversmannia* 15-16: 53-68, figs.
- Zerny, H.**, 1934, Lepidopteren aus dem nördlichen Libanon (Fortsetzung) Pyralidae- Adelidae. *Dt. ent. Z., Iris* 48: 1-28.



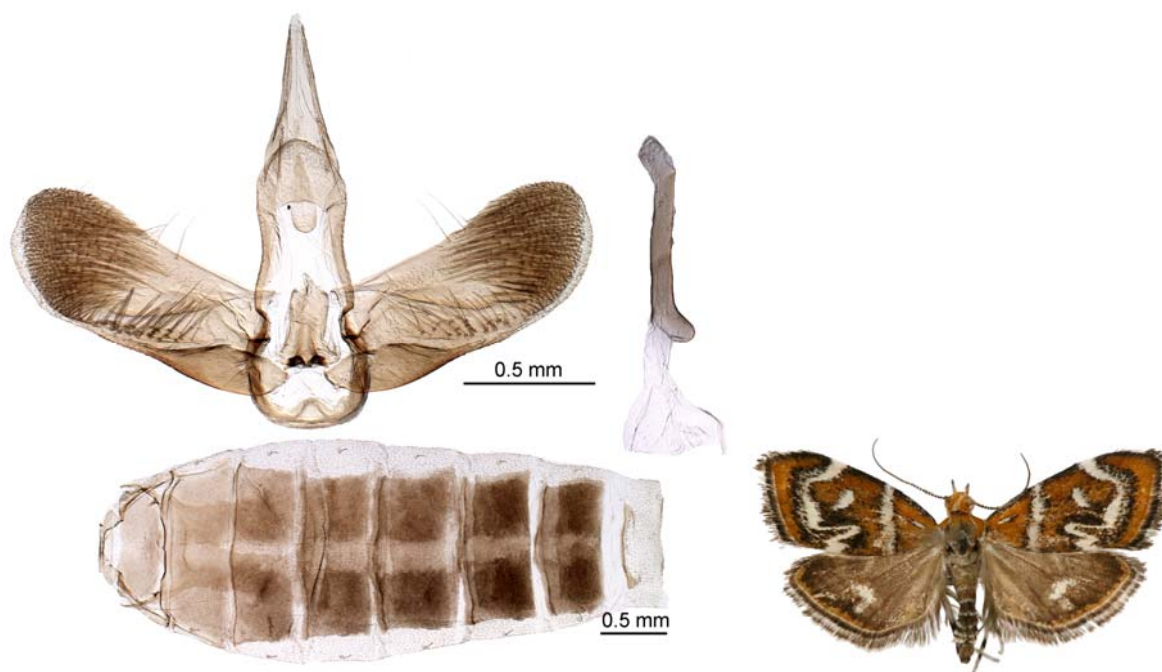
## Images



**Figs. 1, 2** – *Aprominta kyra* (Autostichidae). Male genitalia and upperside of male (GP2916). Van Prov. Bahçesaray. M. Kemal (Cesa)



**Figs. 3-5** – *Symmoca manni* (Autostichidae). Male genitalia, abdominal skin, and upperside of male (GP2878). Hakkari Prov., Yüksekova, Dağlıca, H.Uçak leg., M. Kemal (Cesa)



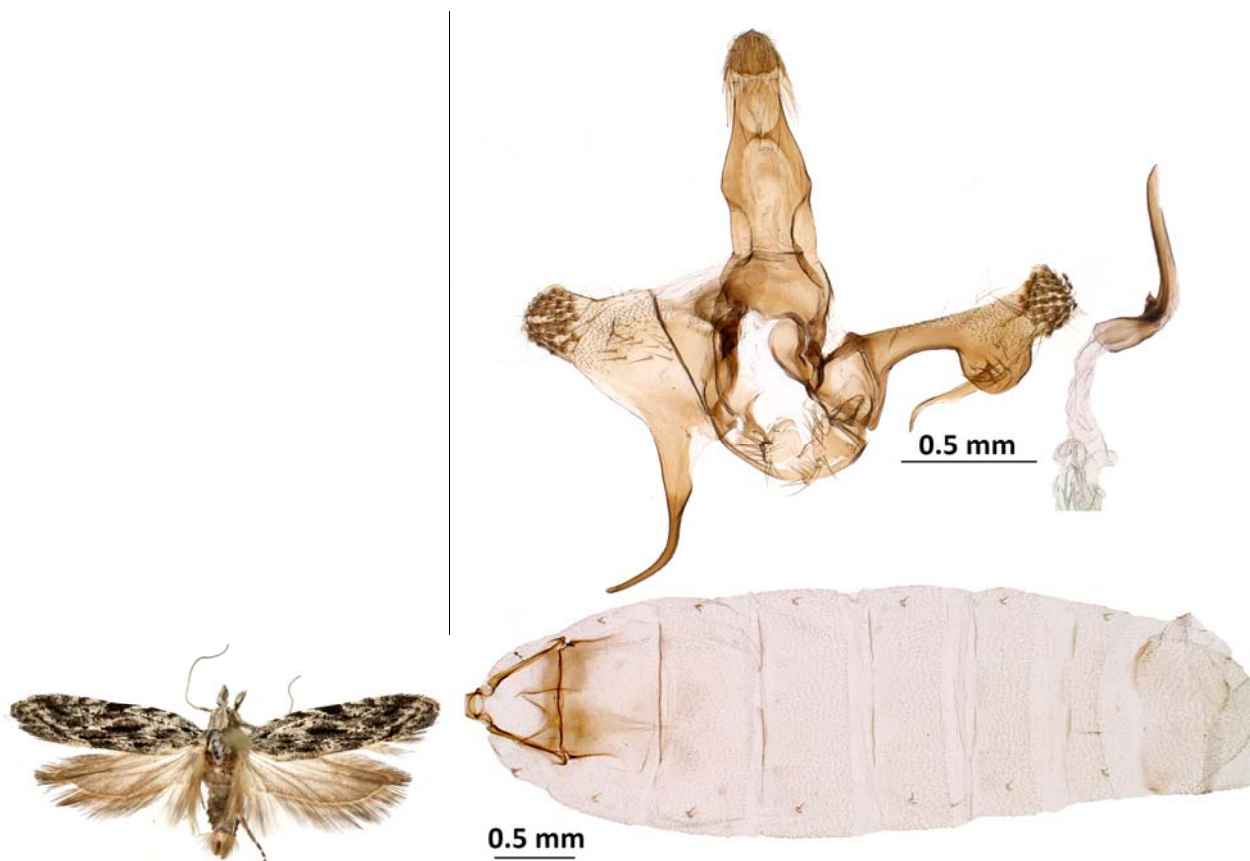
**Figs. 6-8** - *Choreutis muhabbet* (Choreutidae). Male genitalia, abdominal skin, and upperside of the male (topotype) (GP2746). Van Prov. Çatak, Elmacı. M. Kemal (Cesa)



**Figs. 9-10** – *Tebenna micalis* (*Choreutidae*). Male genitalia and abdominal skin (GP2904). Istanbul Prov., Pendik, A.Koçak leg., M. Kemal (Cesa)



**Figs. 11-13** – *Tolliella fulguritella* (*Cosmopterygidae*): Dorsal view of the male (left), male genitalia, and abdominal skin (right). GP2973. SE Turkey, Hakkari Prov., Sulphur Valley 1570m. M. Kemal (Cesa).



**Figs. 14-16** – *Anarsia innoxella* (Gelechiidae). Dorsal view of the male (left), male genitalia and abdominal skin. GP2890. E Turkey, Van Prov., Gevaş, Altınsaç 1680m. M. Kemal (Cesa)

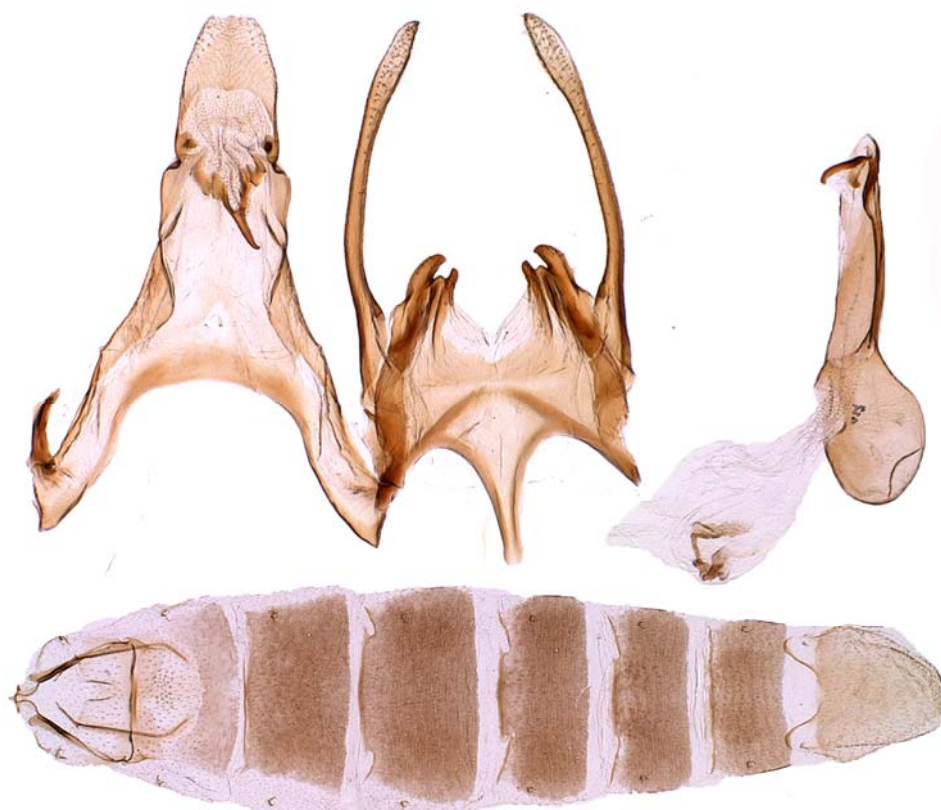


**Figs. 17-19** – *Bryotropha arabica* (Gelechiidae). Male genitalia, abdominal skin, and upperside of male (GP2885). Mardin Prov., Artuklu. M. Kemal (Cesa)





**Figs. 20-22** - *Carpatolechia humeralis* (Gelechiidae). Male genitalia, abdominal skin, and upperside of male (GP2918). Van Prov., Bahçesaray, Altındere. M. Kemal (Cesa)



**Figs. 23-24** – *Euscrobipalpa* sp. (Gelechiidae). Male genitalia, and abdominal skin (GP2908). Van Prov., Gürpınar, Zerneke. M. Kemal (Cesa)



**Figs. 25-27** – *Recurvaria* sp. (*Gelechiidae*). Male genitalia, abdominal skin, and upperside of male (GP3023). Van Prov., Gevaş, Altınsaç. M.Kemal (Cesa)



**Fig. 28** – *Sophronia illustrella* (*Gelechiidae*). Upperside of the female. Bolu Prov., Abant road, A.Koçak leg., M. Kemal (Cesa)



**Fig. 29** – *Biston achyrus* (*Geometridae*). Male genitalia (GP3002). Hakkari Prov. Zap Valley, Üzümcü, A. Koçak leg., M.Kemal (Cesa)





**Fig. 30** – *Chiasmia syriacaria* (Geometridae). Upperside of the female. Ankara Prov., Kepekli, A.Koçak leg., M. Kemal (Cesa)



**Figs. 31-33** – *Coenoteophria ablutaria* ssp. *hangayi* (Geometridae). Male genitalia, tympanal organ (before and after preparation), and upperside of male (GP2991). Hakkari Prov., Ağaçdibi. M. Kemal (Cesa)



**Figs. 34-36** – *Isturgia hopfferaria* (Geometridae). Male genitalia, tympanal organ, tergite and sternite of the terminal abdominal segment (GP2295). Van Prov., Çatak, Darboğaz. M. Kemal (Cesa)



**Figs. 37, 38** – *Phaselia serrularia* (Geometridae). Upperside of male. Hakkari Prov., Sulphur Valley (left). *Synopsidia phasidaria* (Geometridae). Upperside of male. Van Prov. Gevaş, Artos Mt. (right). Kemal (Cesa)



**Figs. 39-41** – *Xanthorhoe inconsiderata* (Geometridae). Female genitalia (with enlarged spinal region), tympanal organ (before and after preparation), and upperside of female (GP2990). Hakkari Prov., Ağaçdibi. M. Kemal (Cesa)

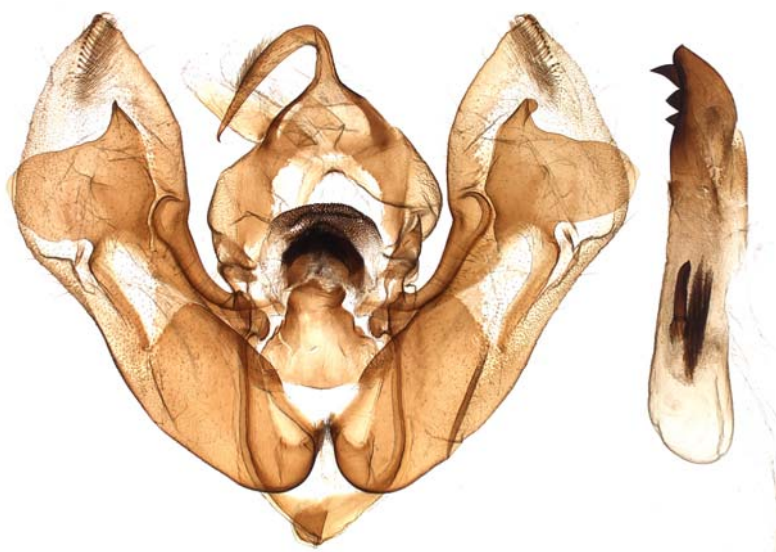




**Figs. 42, 43** – *Agrotis pierreti* (Noctuidae). Male genitalia and upperside of male (GP2992). Hatay Prov., Samandağ, Karabucak, M. Kemal (Cesa).



**Figs. 44, 45** – *Allophytes renalis* (Noctuidae). Male genitalia and upperside of male (GP2985). Hakkari Prov., Yüksekova, Dağlıca, H.Uçak leg., M. Kemal (Cesa)



**Fig. 46** – *Dichonia aeruginea ssp. topali* (Noctuidae). Male genitalia (GP2982). Hakkari Prov., Yüksekova, Dağlıca. M. Kemal (Cesa).



**Fig. 47** - *Hypeuthina fulgurita* (Noctuidae). Upperside of male. Hatay Prov., Samandağ, Karabucak. M. Kemal (Cesa).



**Figs. 48, 49** – *Shargacucullia armena* (Noctuidae). Male genitalia and upperside of male (GP2987). Van Prov. Bahçesaray. M. Kemal (Cesa)



**Figs. 50, 51** – *Tiliacea cypreago* (Noctuidae). Male genitalia and upperside of male (GP2414). Van Prov. Gevaş, Altınsaç. M. Kemal (Cesa)



**Figs. 52, 53** - *Depressaria discipunctella* (Oecophoridae). Male genitalia and abdominal skin (Gp2948). Van Prov., Erek Mt. M. Kemal (Cesa)



**Figs. 54, 55** - *Depressaria ululana* (Oecophoridae). Male genitalia and abdominal skin (Gp2949). Van Prov., Edremit, Elmahk. M. Kemal (Cesa)





**Figs. 56, 57** - *Depressaria zelleri* (Oecophoridae). Male genitalia and abdominal skin (Gp2893). Van Prov., Çatak, Narlı. M. Kemal (Cesa)

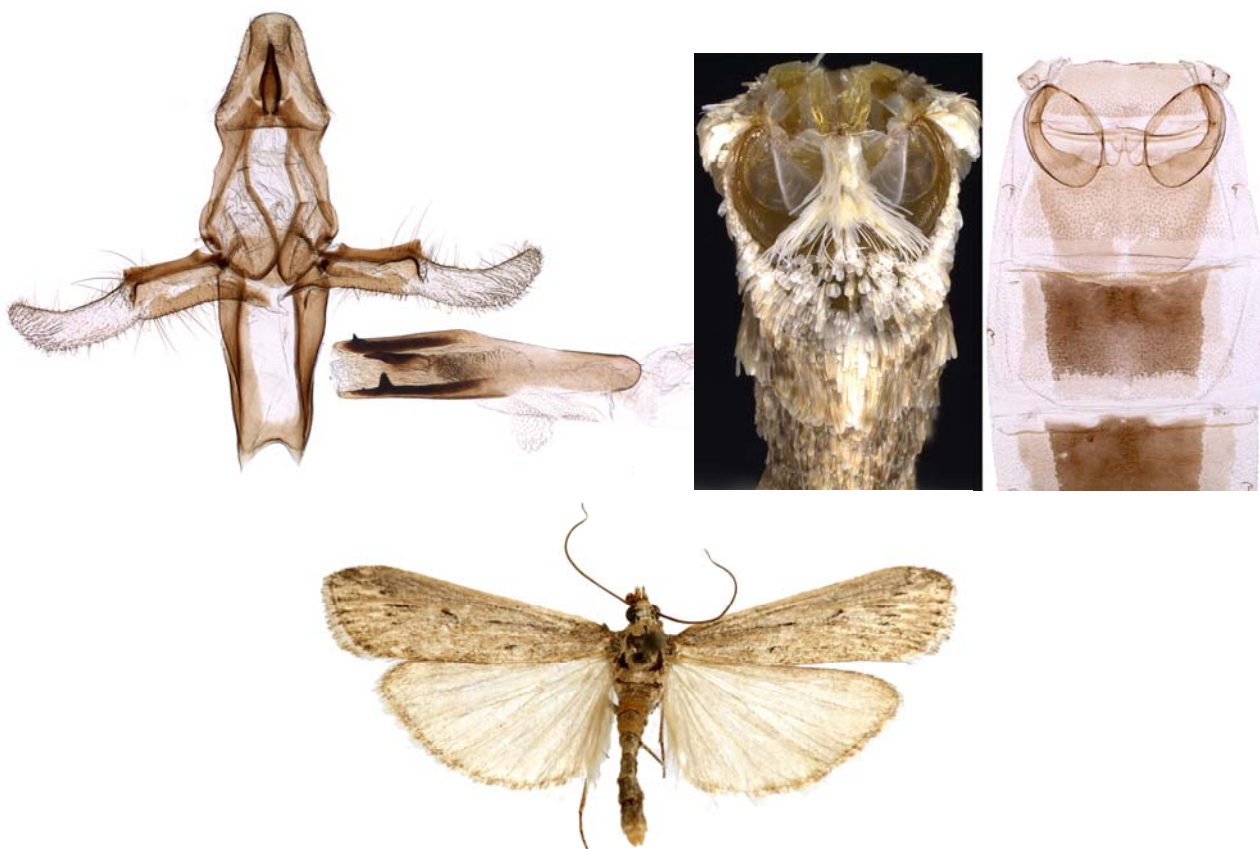


**Figs. 58, 59** - *Cholius luteolaris* (Pyrallidae). Male genitalia, tympanal organ (before and after preparation) (GP3027). Hakkari Prov., Sulphur Valley. M. Kemal (Cesa)



**Figs. 60-63** – *Evergestis pazukii* (Pyrilidae). Male genitalia, terminal abdominal segment, tympanal organ (before & after preparation, upperside of male (GP2537). Van Prov. Başkale, Ziyaniş. M. Kemal (Cesa)





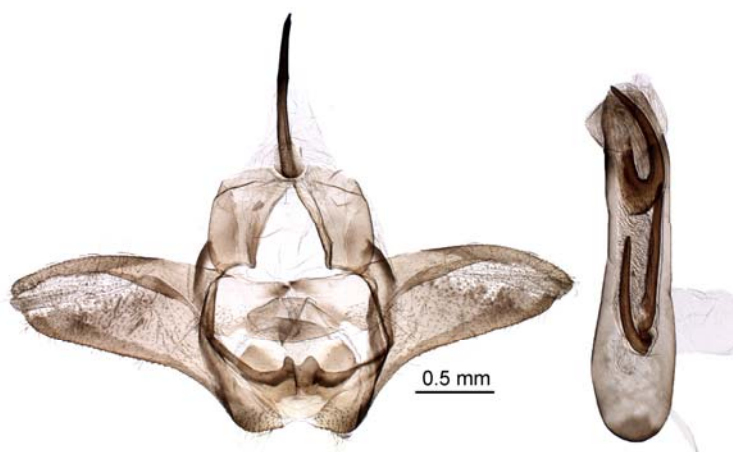
**Figs. 64-66** – *Megasis libanoticella* (Pyralidae). Male genitalia, tympanal organ (before and after preparation), and upperside of male (Gp2864). Malatya Prov., Darende, Beybağı. M. Kemal (Cesa)



**Fig. 67** - *Saturnia naessigi* (Saturniidae). Upperside of male. Hakkari Province, Zap Valley, Ağaçdibi. M. Kemal (Cesa)



**Figs. 68-70** – *Monopis imella* (Tineidae). Male genitalia, abdominal skin, and upperside of male (GP2903). Van Prov., Bahçesaray, Vasting. M. Kemal (Cesa)



**Fig. 71** – *Jordanita subsolana* (Zygaenidae). Male genitalia (GP2745). Mardin Prov., Artuklu. M. Kemal (Cesa)



**Figs. 72, 73** - Caterpillar of *Anarsia innoxella* (Gelechiidae). Inside the closed leaf of Acer (left); caterpillar inside the silky web on Acer leaf (right). Van Prov. Gevaş, Altınsaç. M. Kemal (Cesa)





**Figs. 74-77** – Dorsal, lateral and ventral view of pupal skin of *Anarsia innoxella* (Gelechiidae) (above); emerged male moth (below). Van Prov. Gevaş, Altınsaç. M.Kemal (Cesa)





**Figs. 78-80** – Larval food-plant of *Recurvaria* sp. (*Gelechiidae*), including larva (above); emerged male moth (below).  
Van Prov. Gevaş, Altınsaç, M.Kemal (Cesa)



**Figs. 81-83**– Above dorso-lateral and lateral views of the caterpillar of *Diloba caeruleocephala* (Noctuidae) on *Frangula alnus*, on 17.v.2018. M.Kemal (Cesa)





**Figs. 84-85** – Above: Habitat of Sulphur Valley 1620m (Hakkari Province), *Frangula alnus* was marked by red arrow. Below: A branch of *Frangula alnus* with fruits. M. Kemal (Cesa)





**Figs. 86-93** – Early stages of *Tiliacea cypreago* (Noctuidae). Top: From young to full grown caterpillar, from left to right. Images taken on 1.v. and 6.v.2016. Middle: Ventral, dorsal and lateral view of the pupa on 20.ix.2016. Bottom: Adult male emerged on 8.x.2016. M.Kemal (Cesa)





**Fig. 94** - Habitat of the vicinity of Altınsaç (Van Province, Gevaş) on 5.v.2016. Light green trees are *Acer monspessulanum*, the food-plant of various moths. M.Kemal (Cesa)



**Figs. 95, 96** - Two views of *Acer monspessulanum* from Altınsaç (Van Province, Gevaş) on 5.v.2016. M.Kemal (Cesa)

**MISCELLANEOUS PAPERS****ISSN 1015-8235**

**Miscellaneous Papers** is a peer reviewed serial of the Centre for Entomological Studies Ankara, established in 1989. It appears at irregular interval in a year, as PDF format and includes original articles of the research workers of the Centre, regarding on various subjects on Entomology (taxonomy, nomenclature, checklist, fauna, biodiversity, distribution, biogeography, ecology, insect-plant interactions, bionomy, and behaviour).

The CESA is a non-profit group, no royalties will be paid to authors of contributions. Papers accepted become the copyright of the related serial.

Miscellaneous Papers is currently archived online at "Internet Archive", in accordance with the publication rules of the ICZN. It is an open-access serial, distributed under the terms of the "Creative Commons Attribution License", which permits free use, and distribution in any medium, provided the original author(s) and source are credited.

## Centre for Entomological Studies Ankara



(A scientific Consortium)

(co-operation of research workers for pure-scientific, not commercial purpose)

Web Page of the Cesa: <http://www.cesa-tr.org/>

**Scientific Serials:** Priamus & Priamus Supplement (print and online versions) (ISSN 1015-8243)<sup>4</sup>, Miscellaneous Papers (print and online versions) (ISSN 1015-8235)<sup>5</sup>, Memoirs (print and online versions) (ISSN-8227)<sup>6</sup>, DVD Films<sup>7</sup>, Iconographia Insectorum<sup>8</sup> (online), Cesa Publications on African Lepidoptera (online)<sup>9</sup>, Cesa News (online)<sup>10</sup>, Cesa Books (online)<sup>11</sup>

**Owners / Sahipleri - Editors / Yayıncılar:** Prof. em Dr Ahmet Ömer Koçak (c/o Van Yüzüncü Yıl University, Van, Turkey), Asst. Prof. Dr Muhabbet Kemal Koçak (c/o Van Yüzüncü Yıl University, Van, Turkey).

**Editorial Board of all Scientific Serials of the CESA / Bütün Bilimsel Yayınların Yayın Kurulu:** Insecta, taxonomy, nomenclature, ecology, faunistics: Prof. Dr Ahmet Ömer Koçak (c/o Van Yüzüncü Yıl Üniversitesi, Turkey), Asst. Prof. Dr Muhabbet Kemal Koçak (Van Yüzüncü Yıl University, Turkey).

**Chief referees of all Scientific Serials of the CESA:** Prof. em Dr Ahmet Ömer Koçak & Asst. Prof. Dr Muhabbet Kemal Koçak: Insecta, taxonomy, nomenclature, fauna, ecology, catalogues, checklists of the Old World.

**Expert referees according to the subject areas:** Dr Peter Huemer (Austria): Gelechiidae, and some Microlepidoptera groups in Palaearctic (Lepidoptera). Dr J. B. Heppner (U.S.A.): Microlepidoptera of Nearctic and Neotropical. Dr G. Baldizzone (Italy): Coleophoridae (Lepidoptera). Dr V. Korneyev (Ukraine): Tephritidae, Pyrgotidae, Ulidiidae (Diptera). Prof. Dr Y.G.Verves (Ukraine): Sarcophagidae (Diptera). Dr Daniel Burckhardt (Switzerland): Psyllidae (Homoptera). Prof. Dr E. Heiss (Austria): Hemiptera. Dr R. Ehrmann (Germany): Mantodea. Prof. Dr Mustafa Ünal (Bolu, Turkey): Orthoptera. Prof. Dr Hüseyin Özdikmen (Turkey): Coleoptera. Prof. Dr Suat Kiyak (Turkey): Hemiptera.

**Plant taxonomy, flora and vegetation:** Assoc. Prof. Dr Murat Ünal, Asst. Prof. Dr Mesut Pınar, (Yüzüncü Yıl University, Van, Turkey).

**Molecular studies:** Dr Sibel Kızıldağ (Van Yüzüncü Yıl University, Van, Turkey).

**Editorial policy:** The submitted manuscript is evaluated by the Chief Editor and Referee. In case of need, the manuscript is sent to expert referees according to the subject areas.

**ALL RIGHTS RESERVED**

Correspondences should be addressed to: Prof. em Dr Ahmet Ömer Koçak, c/o Yüzüncü Yıl University, Fen Fakültesi, Biyoloji Bölümü, Kampus, Van / Turkey. - e-mail: [cesa\\_tr@yahoo.com.tr](mailto:cesa_tr@yahoo.com.tr)

All the serials of the Cesa are archived regularly by the Internet Archive (300 Funston Ave., San Francisco, CA 94118, U.S.A.), in accordance with the rules of the International Codes of Zoological Nomenclature (ICZN)

<https://archive.org/>

also recorded regularly by the Zoological Record, Thomson Reuters, Enterprise House, Innovation Way, Heslington, York, YO10 5NQ, United Kingdom, <https://clarivate.com/>

<sup>4</sup> <http://www.cesa-tr.org/Pri.htm>

<sup>5</sup> <http://www.cesa-tr.org/Miscell.htm>

<sup>6</sup> <http://www.cesa-tr.org/Memoirs.htm>

<sup>7</sup> <http://www.cesa-tr.org/CDF.htm>

<sup>8</sup> <http://www.cesa-tr.org/Icon.htm>

<sup>9</sup> <http://www.cesa-tr.org/CPAL.htm>

<sup>10</sup> <http://www.cesa-tr.org/Cesanews.htm>

<sup>11</sup> <http://www.cesa-tr.org/Cesabooks.htm>